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## Patent Abstracts of Japan

PUBLICATION NUMBER : 63114265  
PUBLICATION DATE : 19-05-88

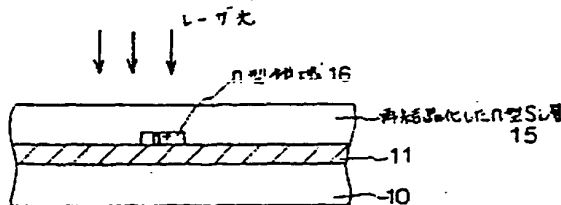
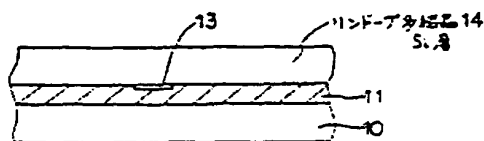
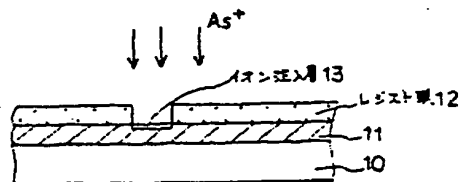
APPLICATION DATE : 31-10-86  
APPLICATION NUMBER : 61260929

APPLICANT : FUJITSU LTD;

INVENTOR : KAWAMURA SEIICHIRO;

INT.CL. : H01L 29/78 H01L 27/12

TITLE : MANUFACTURE OF  
SEMICONDUCTOR DEVICE



ABSTRACT : PURPOSE: To ensure prevention of a back channel, by projecting laser light on a polycrystalline or amorphous semiconductor layer, and recrystallizing the semiconductor layer again.

CONSTITUTION: An  $\text{SiO}_2$  film 11 is formed on an Si substrate 10. After a resist film 12 is deposited, an opening part is formed by patterning. Arsenic ions ( $\text{As}^+$ ) are implanted in the surface of the  $\text{SiO}_2$  film 11 through the opening part. Thereafter phosphorus doped polycrystalline Si film 14 is formed. Laser light (a) is projected from above and the polycrystalline Si film 14 is fused. Then, a recrystallized n-type Si layer 15 is formed. At this time, the arsenic ions ( $\text{As}^+$ ), which are implanted into the surface of the  $\text{SiO}_2$  film 11, are activated and distributed again on the side of the n-type Si layer 15. Thus a high concentration n-type region 16 is formed at an interface of Si/ $\text{SiO}_2$ . In this way, leaking currents due to a back channel in an MOSFET can be prevented.

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